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BEFORE THE
POSTAL REGULATORY COMMISSION
WASHINGTON, D.C. 20268–0001

| PERIODIC REPORTING<br>(PROPOSAL TEN) | Docket No. RM2015-3 |
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# PETITION OF THE UNITED STATES POSTAL SERVICE FOR THE INITIATION OF A PROCEEDING TO CONSIDER PROPOSED CHANGES IN ANALYTICAL PRINCIPLES (PROPOSAL TEN)
(November 3, 2014)

Pursuant to 39 C.F.R. § 3050.11, the Postal Service requests that the Commission initiate a rulemaking proceeding to consider a proposal to change analytical principles relating to the Postal Service's periodic reports. The proposal, labeled Proposal Ten, is discussed in the attached text.

Respectfully submitted,

UNITED STATES POSTAL SERVICE

By its attorneys:

Daniel J. Foucheaux, Jr.
Chief Counsel, Pricing & Product Support

Eric P. Koetting

475 L'Enfant Plaza, S.W.
Washington, D.C. 20260-1137
(202) 277-6333
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# PROPOSAL TEN

## A PROPOSAL TO INCORPORATE NEW FIELD STUDY DATA INTO THREE PARCEL MAIL PROCESSING COST MODELS AND THE STANDARD MAIL DESTINATION ENTRY COST MODEL

**OBJECTIVE:**

The Postal Service proposes that data from a recent field study should be incorporated into the Standard Mail parcel mail processing cost model, the Standard Mail destination entry cost model, the Media Mail – Library Mail mail processing cost model, and the Parcel Select / Parcel Return Service mail processing cost model.

**BACKGROUND:**

In past rulemaking dockets, the Postal Service has submitted proposals that have included productivity estimates that were collected manually. In Docket No. RM2010-12, Proposal Seven, the Postal Service presented productivity data that were manually collected during a 2009 field study and used to develop a Standard Mail parcel mail processing cost model. In its comments, the Public Representative expressed concern about the standard deviation exhibited by the data. Despite these concerns, the Postal Regulatory Commission approved the use of the data in Order No. 658 (January 28, 2011).

In Docket No. RM2011-6, Proposal Thirteen, the Postal Service presented a new Parcel Select / Parcel Return Service mail processing cost model that relied on the Proposal Seven data. In its comments, the Public Representative pointed out the variation exhibited by the Proposal Seven data, but added that it should not preclude the Commission's approval of the cost model. The Commission approved the new model in Order No. 719 (April 28, 2011).

In Docket No. RM2014-6, Proposal Seven, the Postal Service proposed that several modifications should be made to the Standard Mail destination entry model, including the use of the productivity data that were originally presented in Docket No. RM2010-12. In its comments, the Public Representative expressed concern about the quality of the data and proposed that the Commission request additional data before implementing the proposal. The Commission ultimately approved the Postal Service's recommended changes in Order No. 2180 (September 10, 2014).

The 2009 productivity data are now used to develop cost estimates in four models that are filed in the annual compliance report (ACR): the Standard Mail parcel mail processing cost model (USPS-FY13-12), the Standard Mail destination entry cost model (USPS-FY13-13), the Media Mail – Library Mail mail processing cost model (USPS-FY13-15), and the Parcel Select / Parcel Return Service mail processing cost model (USPS-FY13-NP15).

**RATIONALE:**

In order to improve the cost estimates contained in these models, the Postal Service conducted a field study (subsequently referred to as the 2014 study) in which data were collected at 10 network distribution centers (NDC), 4 auxiliary service facilities (ASF), 21 processing and distribution centers (P&DC), and 21 delivery units (DU) over a two and one-half year period. The data were collected by the same team that collected the Business Reply Mail (BRM) productivity data in Docket No. RM2012-2, Proposal Twenty. The data collection team typically spent two days at each NDC, one day at each P&DC, and one day at each DU. In addition to productivity data, the team collected NDC postal arrival and dispatch profile data and mail piece dimension

data by mail type. The public data are contained in the file 'PROP.10.DATA.PUB.xlsx' in the public folder USPS-RM2015-3/1. The non-public data (cube data for Lightweight Parcel Select, which are used only in the NP15 Parcel Select nonpublic cost model) are contained in the file 'PROP.10.DATA.NONPUB.xlsx' in the non-public folder USPS-RM2015-3/NP1, filed under seal.

The Postal Service proposes the incorporation of the 2014 data into the four models described above. In total, six cost models are affected by this proposal because the results from two of the models are used as inputs to other costs studies. Five of the six affected cost models are contained in the public folder RM2015-3/1. The Standard Mail parcel mail processing cost model as it would be revised with the incorporation of these data can be found in the file 'PROP.10.USPS-FY13-12.xlsx. The Standard Mail destination entry cost model can be found in the file 'PROP.10.USPS-FY13-13.xlsx'. The Media Mail – Library Mail mail processing cost model can be in the file 'PROP.10.USPS-FY13-15.xlsx'. The Bulk Parcel Return Service (BPRS) cost model can be found in the file 'PROP.10.USPS-FY13-16.xlsx'. The Standard Mail Enhanced Carrier Route (ECR) mail processing cost model can be found in the file 'PROP.10.USPS-FY13-18.xlsx.' [1]

The sixth cost model is contained in the non-public folder RM2015-3/NP1, filed under seal. The Parcel Select / Parcel Return Service mail processing cost model can be found in the file 'PROP.10.USPS-FY13-NP15.xlsx'.

The worksheet tabs within the models have been highlighted in yellow if they contain any modifications. In addition, areas within each worksheet where figures have

[1] The indirect impact that Proposal Seven had on the ECR cost study was inadvertently left out of Docket No. RM2014-6.

changed have also been highlighted in yellow.

**Productivity Data:** Most of the productivity values developed in this field study represented container movement tasks. By definition, the productivity values for container movement tasks exhibit a great deal of variation due to the distances that containers have to be moved. For example, a container staged directly next to the dock door could be the last container loaded onto a truck. In this case the distance moved would be minimized and the time required to load that container would be fairly short. In contrast, a container that is located in a staging area away from the dock could be the first container loaded onto a truck. In this instance the container would have to be moved the distance to the dock bay as well as entire length of the truck bed. The time required to load the container would therefore be longer.

In order to address the issue of variation in this study, the sample size formula from the time study section of the industrial engineering handbook has been applied to the data as a means to evaluate the results.[2] This is the same methodology that was presented in Docket No. RM2012-2, Proposal Twenty, which the Commission subsequently approved in Order No. 1383 (June 26, 2012). This formula is used to estimate the sample size required to achieve a specific accuracy level using statistics from a sample that has already been collected. If the required sample size is less than the actual sample size, the desired accuracy level has been achieved. Twenty-six different tasks were evaluated as part of this study and in all cases the sample size

[2] The formula is as follows: $N = [ ( s * t ) / ( k * x_{avg} ) ]^2$, where s is the sample standard deviation, t is the value of the t distribution based on the sample size and an acceptable probability value, k is an target degree of accuracy around $x_{avg}$, and $x_{avg}$ is the sample mean. Savendy, Gavriel. *Handbook of Industrial Engineering*. New York: John Wiley & Sons, 1982.

required to achieve the target level of statistical significance was less than the actual sample size.[3] In other words, the target level of statistical significance was achieved.

Five new productivity statistics were added to the 2014 study and four of them were for tasks performed at ASFs. Four of the eight ASFs were included in the 2014 study. Productivity values were measured for the following tasks: load rolling stock, load pallet / pallet box, unload rolling stock, and unload pallet / pallet box. The fifth new productivity statistic was for a task performed at NDCs. Parcels that are rejected on the Parcel Sorting Machines (PSM) are typically isolated in rolling stock and sent to an area where a clerk manually applies a barcode label based on the mail piece address. Productivity data were collected for this barcoding operation.

In the 2014 field study, the productivity values for loading and unloading tasks were significantly higher than those measured in the 2009 study. While the number of facilities included in the previous study was fairly small, some of the change could be due to the activation of the NDCs. One focus of the NDC activation process was the timely loading and unloading of trucks. In addition, postal vehicle drivers and highway contract drivers were both regularly observed assisting mail handlers with the loading and unloading of trucks during the 2014 study, but were not observed doing so during the 2009 study. The time drivers spent assisting mail handlers was not incorporated into the productivity estimates in the 2014 study because those costs are not defined as mail processing costs.

The Postal Service proposes that the following modifications be made to the

[3] The target level of statistical significance used in this analysis was a 95-percent confidence level that the sample mean would be within plus or minus 10 percent of the population mean.

three mail processing cost models in order to accommodate these new productivity values. First, the data should be incorporated into the 'Productivity Data' tabs in each cost model. Second, the cost estimates for all ASF tasks within the workbook should be modified to access the ASF productivity values rather than the P&DC productivity values. A final modification should be made to mail flow models that include PSM tasks. The models already rely on the assumption that rejects are reprocessed once on the PSMs. The following two tasks should be added below each PSM piece-sorting task to account for the reject processing activities that take place between each PSM handling: (1) the manual application of barcode labels to the reject parcels, and (2) the induction of rolling stock containing those parcels back into the PSM system.

The Postal Service also proposes that the 2014 productivity values should be incorporated into the 'Productivity' tab in the Standard Mail destination entry cost model. Extraneous productivity values that are not used to develop any cost estimates in that model should be removed. In Order No. 2180 (September 10, 2014), the Commission approved the use of some Standard Mail parcel mail processing cost model data as inputs to the Standard Mail destination entry cost model. In the instant proceeding, some of these input values have changed. The Postal Service therefore proposes that these new input values should be incorporated into the Standard Mail destination entry cost model.

**Postal Arrival and Dispatch Profile Data:** Postal arrival and dispatch profile data were also collected during the field study. The data collectors recorded the container types that arrived at the NDC from the P&DCs and also estimated the fullness level of each container. The same data were recorded for containers being dispatched

from the NDC to the P&DCs.

When compared to the profiles from the 2009 study, there were some modest differences regarding the types of containers that were used to move the mail. In addition, the average container was well over fifty-percent full. The Postal Service proposes that the 2014 results be incorporated into the 'Postal Arrival-Dispatch Profile' tabs in each of the three mail processing cost models.

**Mail Piece Dimension Data:** In the mail processing cost models, average cubic feet per piece data are used to develop conversion factors (pieces per container) that are relied upon to estimate container movement costs. Density data (pounds per cubic foot) and average mail piece weight data from the Cost and Revenue Analysis (CRA) report can be used to estimate the cubic feet per piece for some mail types. While these data are available for Standard Mail parcels as a whole, there are no separate and distinct data available for machinable, irregular, and marketing parcels.

In the 2009 study, mail piece dimensions were collected for a sample of Standard Mail machinable, irregular, and not-flat machinable (NFM) parcels. The NFM price category, however, no longer exists; the marketing parcel price category has been introduced as a replacement category. In addition, the Standard commercial machinable and irregular parcel price categories are now classified as Lightweight Parcel Select price categories and the costs for Lightweight Parcel Select are rolled into the Parcel Select CRA line item. In the 2014 field study, mail piece dimensions were collected separately for Standard machinable parcels, Standard irregular parcels, Standard marketing parcels, Lightweight Parcel Select machinable parcels, and Lightweight Parcel Select irregular parcels.

A comparison of the 2009 Standard Mail cubic feet per piece values to the 2014 values is not particularly meaningful given that the data for the 2009 study were collected in aggregate form (non-profit and commercial Standard combined) while the data for the 2014 study were collected separately for Standard Mail parcels and Lightweight Parcel Select. The Postal Service proposes that the new cubic feet per piece values should be incorporated into the 'Conversion Factor' tabs of the Standard Mail parcel mail processing cost model and the Parcel Select / Parcel Return Service mail processing cost model.

**IMPACT:**

The impact the proposed modifications had on the public cost models is summarized in Tables 1 through 5 below. These impact tables can also be found in the file 'PROP.10.IMPACT.PUB.xlsx' in the public folder RM2015-3/1. The impact the proposed modifications had on the Parcel Select / Parcel Return Service mail processing unit cost estimates can be found in 'PROP.10.IMPACT.NONPUB.xlsx' in the non-public folder RM2015-3/NP1, filed under seal.

## TABLE 1: STANDARD MAIL PARCEL
## MAIL PROCESSING UNIT COST IMPACT

| Parcels<br>Price Category | Entry<br>Discount | Docket No.<br>RM2014-6 | Current<br>Docket | Percent<br>Difference |
|---|---|---|---|---|
| **Machinable** | | | | |
| Machinable MNDC | None | $1.896 | $1.882 | -0.745% |
| Machinable NDC | None | $1.350 | $1.268 | -6.028% |
| Machinable NDC | DNDC | $1.276 | $1.245 | -2.437% |
| Machinable 5-Digit | DNDC | $0.654 | $0.575 | -12.133% |
| Machinable 5-Digit | DSCF | $0.531 | $0.482 | -9.234% |
| Machinable 5-Digit | DDU | $0.464 | $0.450 | -2.910% |
| **Irregular** | | | | |
| Irregular MNDC | None | $1.766 | $1.784 | 1.037% |
| Irregular NDC | None | $1.571 | $1.578 | 0.417% |
| Irregular NDC | DNDC | $1.557 | $1.563 | 0.355% |
| Irregular 3-Digit | DNDC | $1.119 | $1.119 | -0.013% |
| Irregular 5-Digit | DNDC | $0.550 | $0.545 | -0.840% |
| Irregular 3-Digit | DSCF | $1.084 | $1.084 | 0.020% |
| Irregular 5-Digit | DSCF | $0.475 | $0.471 | -0.805% |
| Irregular 5-Digit | DDU | $0.454 | $0.450 | -0.931% |
| **Marketing** | | | | |
| Marketing MNDC | None | $1.768 | $1.796 | 1.586% |
| Marketing NDC | None | $1.462 | $1.473 | 0.789% |
| Marketing NDC | DNDC | $1.456 | $1.467 | 0.765% |
| Marketing 3-Digit | DNDC | $1.092 | $1.091 | -0.029% |
| Marketing 5-Digit | DNDC | $0.543 | $0.538 | -1.085% |
| Marketing 3-Digit | DSCF | $1.090 | $1.089 | -0.101% |
| Marketing 5-Digit | DSCF | $0.471 | $0.465 | -1.201% |
| Marketing 5-Digit | DDU | $0.453 | $0.448 | -1.037% |

## TABLE 2: STANDARD MAIL DESTINATION ENTRY NON-TRANSPORTATION COST IMPACT

| Price Category | Docket No. RM2014-6 | Current Docket | Percent Difference |
|---|---|---|---|
| DDU Letters | $0.0556 | $0.0404 | -27.227% |
| DSCF Letters | $0.0288 | $0.0210 | -27.139% |
| DNDC Letters | $0.0105 | $0.0064 | -39.039% |
| DDU Flats | $0.0189 | $0.0129 | -31.458% |
| DSCF Flats | $0.0107 | $0.0078 | -26.921% |
| DNDC Flats | $0.0059 | $0.0044 | -25.407% |
| DDU Parcels | $0.0325 | $0.0309 | -5.094% |
| DSCF Parcels | $0.0142 | $0.0144 | 1.983% |
| DNDC Parcels | $0.0072 | $0.0070 | -2.194% |

## TABLE 3: MEDIA MAIL – LIBRARY MAIL
## MAIL PROCESSING UNIT COST IMPACT

| Price Category | Docket No. ACR2013 | Current Docket | Percent Difference |
|---|---|---|---|
| Inter-NDC Single-Piece Machinable | $2.271 | $2.319 | 2.137% |
| Inter-NDC Single-Piece NMO > 20 lbs | $15.412 | $14.327 | -7.038% |
| Inter-NDC Single-Piece NMO Flats / IPPs | $2.120 | $1.949 | -8.045% |
| Intra-NDC Single-Piece Machinable | $2.145 | $2.192 | 2.194% |
| Intra-NDC Single-Piece NMO > 20 lbs | $10.051 | $8.847 | -11.980% |
| Intra-NDC Single-Piece NMO Flats / IPPs | $1.966 | $1.846 | -6.132% |
| **Aggregate Single Piece** | **$2.272** | **$2.270** | **-0.057%** |
| Basic Machinable | $1.970 | $2.035 | 3.333% |
| Basic 3-Digit NMO > 20 lbs | $4.856 | $3.541 | -27.080% |
| Basic NDC NMO > 20 lbs | $9.401 | $8.498 | -9.613% |
| Basic 3-Digit Flats / IPP | $1.356 | $1.266 | -6.681% |
| Basic ADC Flats / IPP | $1.861 | $1.773 | -4.765% |
| **Aggregate Basic** | **$1.967** | **$1.999** | **1.626%** |
| 5-Digit Sack | $1.310 | $1.198 | -8.538% |
| 5-Digit Pallet | $4.034 | $2.834 | -29.744% |
| **Aggregate 5-Digit** | **$1.334** | **$1.213** | **-9.108%** |
| **Basic Presort Cost Difference** | **$0.305** | **$0.271** | **-10.930%** |
| **5-Digit Presort Cost Difference** | **$0.937** | **$1.057** | **12.832%** |

## TABLE 4: BULK PARCEL RETURN SERVICE COST IMPACT

| Price Category | Docket No. ACR2013 | Current Docket | Percent Difference |
|---|---|---|---|
| Collection | $0.046 | $0.046 | 0.000% |
| Mail Processing | $1.829 | $1.968 | 7.573% |
| Transportation | $1.088 | $1.088 | 0.000% |
| Delivery | $0.057 | $0.057 | 0.000% |
| Postage Due | $0.067 | $0.067 | 0.000% |
| **Aggregate Single Piece** | **$3.087** | **$3.225** | **4.488%** |

## TABLE 5: STANDARD MAIL ECR
## MAIL PROCESSING UNIT COST IMPACT

| Price Category | Docket No. ACR2013 | Current Docket | Percent Difference |
|---|---|---|---|
| Basic Letters | $11.746 | $11.638 | -0.916% |
| Saturation Letters | $1.853 | $1.707 | -7.876% |
| High Density Letters | $2.088 | $1.957 | -6.277% |
| Basic Flats | $7.286 | $6.620 | -9.137% |
| Basic Parcels | $59.147 | $58.882 | -0.449% |
| **Total Basic Non-Letters** | **$7.286** | **$6.620** | **-9.137%** |
| Saturation Flats | $1.989 | $1.250 | -37.124% |
| Saturation Parcels | $1.884 | $0.533 | -71.704% |
| **Total Saturation Non-Letters** | **$1.989** | **$1.250** | **-37.125%** |
| High Density Flats | $3.261 | $2.445 | -25.033% |
| High Density Parcels | $0.454 | $0.145 | -68.027% |
| **Total High Density Non-Letters** | **$3.261** | **$1.213** | **-62.804%** |